



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/526,702

09/14/2005

Robert S Bailey

020324 232P2

7436

33805

7590

04/01/2008

WEGMAN, HESSLER & VANDERBURG
6055 ROCKSIDE WOODS BOULEVARD
SUITE 200
CLEVELAND, OH 44131

EXAMINER

BAND, MICHAEL A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,702	Applicant(s) BAILEY ET AL.	
	Examiner MICHAEL BAND	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7,10-14,16,18-26,28,29 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,7,10-14,16,23 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18, 26, and 28 is/are rejected.
- 7) ☒ Claim(s) 19-22,24,25,29 and 31-33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/2/2006; 6/6/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-2, 7, 10-14, 16, 23, and 34, drawn to a sputter target product.

Group II, claim(s) 18-22, 24-25, 28-29, and 31-33, drawn to process for making a sputter target.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical feature of Group II such as the technique of using a hydroforming press is not recited in Group I.

3. During a telephone conversation with Bruce Peacock on 3/26/2008 a provisional election was made without traverse to prosecute the invention of Group II, claims 18-22, 24-25, 28-29, and 31-33. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-2, 7, 10-14, and 16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

4. Claims 19-22, 24-25, 29, and 31-33 are dependant upon cancelled claims. Said claims have been treated as cancelled.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claim 26 is rejected under 35 U.S.C. 102(a) as being anticipated by Ford et al (US Patent No. 6,887,356).

With respect to claim 26, Ford et al discloses sputter targets and methods of making the sputter targets (abstract). Ford et al further discloses sputter target composed of commercially pure tantalum of (100) (col. 9, lines 60-67), where alternatively the target has a texture of a mixed (111)-(100) (i.e. first and second crystallographic orientation) global texture, such that the grain texture having the (100) orientation normal direction to the sputter surface are scattered such that there are no localized groupings of the (100) texture (col. 8, lines 36-42). Fig. 5 depicts steps of taking a sputtering metal workpiece (i.e. blank) and cold-rolling to obtain a shaped sputter workpiece with the stated crystallographic orientations, with Ford et al also delcaring that an optional annealing step is avoided (col. 3, lines 51-61).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 18 and 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoades et al (US Patent No. 5,085,068) in view of Kulkarni et al (US Patent No. 6,283,357) and Ford et al (US Patent No. 6,887,356).

With respect to claims 18 and 28, Rhoades et al discloses a process and apparatus for die forming metallic sheet materials (abstract), where the process utilizes a flowing viscous thermoplastic polymer to stretch the workpiece (i.e. sheet metal blank) into a die utilizing differing pressure, flow rates, and flow sequences (col. 3, lines 19-27), thus the process is considered hydroforming. Fig. 1 depicts a sheet metal blank [22] engaged with a fluid thermoplastic medium [32] controlled via a cylinder [26] also engaged with another fluid thermoplastic medium [30] controlled via cylinders [16a], [16b, [16c], where the blank [22] is placed on a hold down member (i.e. annular platen) [20]. The medium [32] acts as a mandrel and medium [30] acts as a bladder. Fig. 3 depicts the cylinder [26] forces the medium [32] through a central opening to contact a surface of the blank [22], where resistance provided by cylinders [16] form the blank into a desired shape. Rhoades et al also discusses the metal sheet blank being aluminum

(col. 1, lines 49-53). However Rhoades et al is limited in that it is not suggested to use hydroforming for forming a sputter target.

Kulkarni et al teaches a sputter target composed of aluminum and formed via hydroforming (abstract; col. 3, lines 35-41; col. 2, lines 34-38).

It would have been obvious to one of ordinary skill in the art to use the hydroforming process of Rhoades et al as the hydroforming process of Kulkarni et al since Kulkarni et al fails to disclose a specific hydroforming process and one of ordinary skill would have a reasonable expectation of success in making the modification since Rhoades et al has shown how aluminum can be shaped in a concave manner.

Rhoades et al is further limited in that it is not suggested to measure the sputter target to determine crystallographic orientation.

Ford et al teaches sputter targets and methods of making the sputter targets (abstract). Ford et al further teaches sputter target composed of commercially pure tantalum of (100) (col. 9, lines 60-67), where alternatively the target has a texture of a mixed (111)-(100) (i.e. first and second crystallographic orientation) global texture, such that the grain texture having the (100) orientation normal direction to the sputter surface are scattered such that there are no localized groupings of the (100) texture (col. 8, lines 36-42). Since Ford et al teaches knowing the crystallographic orientations of the sputter target, a measurement must take place to determine said crystallographic orientations to ensure accuracy and quality of the sputter targets.

It would have been obvious to one of ordinary skill in the art to use the implicit crystallographic orientation measuring method of Ford et al to measure the grains of

Art Unit: 1795

Rhoades et al to gain the advantages of ensuring accuracy and quality of finished products (i.e. sputter targets).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Band whose telephone number is (571) 272-9815. The examiner can normally be reached on Mon-Fri, 8am-4pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B./
Examiner, Art Unit 1795

/Alexa D. Neckel/
Supervisory Patent Examiner, Art Unit 1795